

# JVC

PROFESSIONAL

1/2" CCD COLOUR VIDEO CAMERA

# TK-C1460E

(24V AC/12V DC)

Dual mode Colour and B&W Camera with  
Auto IR Switching, High Sensitivity and  
Motion Detection

**0.4** Super LoLux  
*lux*



Shown with optional lens

- Day and night surveillance with automatic IR filter transmission
- 480 lines horizontal resolution
- DSP with Extended Dynamic Range
- Minimum illumination of 0.4 lux (colour), 0.02 lux (B&W)
- Automatic motion detection with alarm signal
- 10x digital zoom option via remote control
- RS-422A and RS-485 control
- ATW and AWC white balance
- Auto image correction with backlight compensation

# Auto Switching between Colour and B&W Day Night Shooting Extended Dynamic Range

**JVC's innovative TK-C1460E is the first CCTV camera with true IR shooting capability. It takes perfect colour pictures under all lighting conditions, including such extremes as when subjects are lit up by brilliant sunlight and dark shadows are cast which cannot be penetrated by a conventional camera or when the light levels are so low that the subjects are barely visible to the naked eye. At very low light the faithful TK-C1460E automatically switches its shooting mode from colour to B&W. Even in total darkness—provided the subject is IR-illuminated—it captures perfect B&W images. Thus the TK-C1460E has a true 24-hour, round-the-clock surveillance capability. The built-in motion detector completes the ideal security package, which can be configured for individual applications or integrated into a multi-camera system.**



## ■ 1/2" Interline Transfer (IT) CCD with Super LoLux 0.4 lux in Colour mode

With JVC's new-generation 1/2-inch IT CCD (752 (H) x 582 (V)), supported by JVC's exclusive Super LoLux technology, the TK-C1460E can shoot in low ambient light to 0.4 lux (F1.2, 25%, AGC 20dB) and 0.0125 lux minimum illumination (in 32x slow shutter mode).

## ■ Infrared Shooting

The TK-C1460E has an IR shooting capability. When it is switched to B&W-mode, the camera can shoot in complete darkness and gather crisp black and white images of IR-illuminated objects. The B&W mode can be manually switched via the camera menu or remotely.

**Caution:** Attach a lens with an IR capability when using an IR lamp.

## ■ Auto/Manual Colour/B&W Switching

When darkness falls the TK-C1460E automatically switches from colour to B&W shooting mode. In addition to the three settings for the auto switching, there is a manual control accessed remotely, or via the menu.

## ■ Extended Dynamic Range

The camera's innovative Digital Signal Processor (DSP) features Extended Dynamic Range (ExDR), which lets users capture images at a location with both dark and bright areas. Bright portions in the shooting area are shot with a high-speed shutter exposure, while dark portions are shot with normal exposure. The two images are merged to create one single image with full visible detail in the bright and dark areas alike.

## ■ RS-422A and RS-485 Terminals

RS-422A and RS-485 terminals ensure multi-system control compatibility for remote camera adjustments.

## ■ Motion Detector

A built-in motion detector can sense movement within the camera's viewing area and so send out an alarm signal.

## ■ Full Genlock

INT/EXT (Full Genlock) expands possible applications using BB or VBS (BNC) sync input connectors.

## ■ White Balance

Three white balance modes—ATW, AWC (one push automatic) and AWC (manual with paint)—ensure optimum white balance under a wide range of colour temperatures and circumstances.

| --- MENU ---       |  |
|--------------------|--|
| > SYNC ADJUST..    |  |
| ALC SETTINGS..     |  |
| VIDEO ADJUST..     |  |
| MODE SELECT..      |  |
| MOTION DETECT..    |  |
| COMMUNICATION..    |  |
| FACTORY SETTINGS.. |  |

| --- VIDEO ADJUST --- |            |
|----------------------|------------|
| > WHITE BALANCE      | ATW NORMAL |
| COLOUR LEVEL         |            |
| ENHANCE LEVEL        | NORMAL     |
| PEDESTAL LEVEL       | NORMAL     |
| AUTO BLACK CTL       | OFF        |

| --- MOTION DETECT --- |        |
|-----------------------|--------|
| > MODE                | OFF    |
| LEVEL                 | NORMAL |
| AREA EDIT..           |        |
| ALARM TIME            | 10s    |
| DEMONSTRATION..       |        |

| ---WHITE BALANCE CONTROL--- |   |
|-----------------------------|---|
| > AWC SET..                 |   |
| R : .....                   | B |
| MG : .....                  | G |

| --- ALC SETTINGS --- |        |
|----------------------|--------|
| > IRIS LEVEL         | NORMAL |
| AVERAGE:PEAK         | 8:2    |
| SHUTTER (ExDR)       | NORMAL |
| AGC MODE             | 20dB   |
| SENSE UP             | OFF    |
| PRIORITY             | MOTION |
| BLC                  | EDIT 1 |
| B&W/COLOUR MODE      |        |

| --- SHUTTER (ExDR) --- |       |
|------------------------|-------|
| > SHUTTER SPEED        | 1/120 |
| FAST LIMIT             | ---   |
| ExDR LEVEL             | ---   |
| M.ExDR SPEED           | ---   |



# Switching: Colour ↔ B&W [Auto/Manual Selectable]



## Switching: Colour ⇄ B&W [MANUAL MODE]

- Control the switching timing via AUX terminal (to set the IR ON/OFF mode in the menu)
- CLOSED: B&W mode, OPEN: COLOUR mode



## Switching: Colour ⇄ B&W [AUTO MODE (3 Levels)]

- NORMAL: AGC 20dB + Y level is less than 50% over 30 seconds
- HIGH: AGC 20dB + Y level is less than 65% over 30 seconds
- LOW: AGC 20dB + Y level is less than 35% over 30 seconds



## Switching: B&W ⇄ Colour [AUTO MODE (3 Levels)]

- NORMAL: AGC less than 10 dB + Y level is more than 90% over 30 seconds
- HIGH: AGC less than 5 dB + Y level is more than 90% over 30 seconds
- LOW: AGC less than 15 dB + Y level is more than 90% over 30 seconds

**Notes:**

- An infrared compatible lens must be mounted to ensure proper functioning of the backfocus feature in darkness with infrared illumination.
- It is recommended to use manual switching from B&W infrared to colour shooting when there is a sudden change in lighting conditions; for example, momentary direct exposure to a car's headlamps. It is also recommended to use an external trigger when using the B&W mode.
- Due to optical hysteresis conversion conditions from colour to B&W and from B&W to colour are different.
- For AUX terminal, B&W if AUX input is closed, colour if open.

## Images of Extended Dynamic Range

These images are sample images output in an extended dynamic range. So, actual images may vary according to various shooting conditions.



At high speed shutter



At normal speed shutter



ExDr mode

### ■ Camera ID

The TK-C1460E features a built-in camera ID system for use when building a multi-camera surveillance system.

### ■ Automatic Electronic Shutter (AES)

The powerful AES of the TK-C1460E increases possible applications with shutter speeds ranging from 32/50~1/100,000 second, ensuring correct exposure under any lighting conditions. In auto mode the camera adjusts the shutter speed according to the ambient light. Manual setting ensures unblurred images of fast-moving objects.

### ■ Video Out and Y/C Output Connectors

The TK-C1460E comes with VBS output via BNC, as well as Y/C output via 4-pin S-terminal.

### ■ Simple Menu-driven Operation

A simple menu lets users set all parameters including IRIS level, ENHANCE level, AGC level, ATW/AWC, H.PHASE/SC phase, AGC ON/OFF, and L.L. phase.

### ■ Backlight Compensation

The Backlight Compensation function gives to strongly back-lit foreground subjects not only clear detail but also a

sense of depth. Four pre-set and two user-adjustable zones are available.

### ■ Accepts C/CS Mount IR-Compatible Lenses

The TK-C1460E is C/CS-mount lens compatible, which allows infrared-compatible lenses to be mounted.

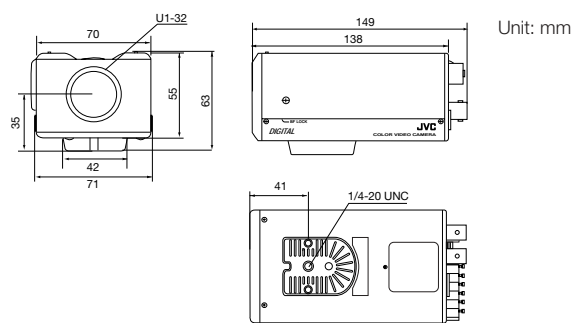
### ■ AC 24V/DC 12V Power Supply

The TK-C1460E can be powered by either AC 24V (50 Hz/60 Hz) or DC 12V (550 mA) sources.

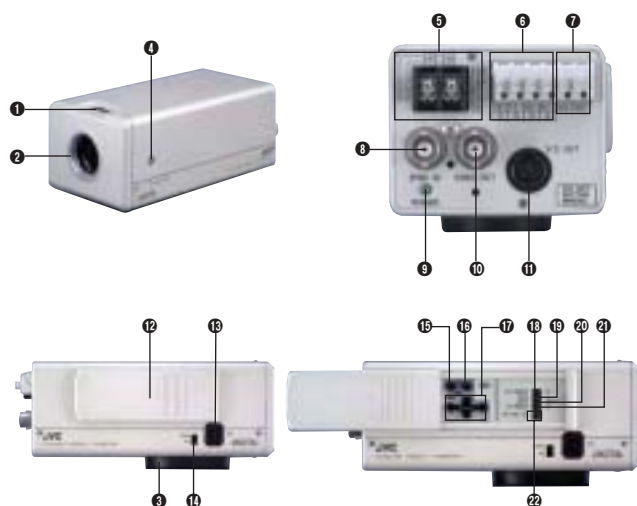
## Specifications

|                               |  |
|-------------------------------|--|
| Signal system                 | PAL  |
| Image device                  | 1/2" IT CCD, 752 (H) x 582 (V)   |
| Sync system                   | Internal, Line Lock, Full Genlock  |
| Scanning frequency            | 15.625 kHz (H), 50 Hz (V)  |
| Horizontal resolution         | 480 TV lines   |
| Video output                  | Composite video signal, 1V(p-p), 75 ohms (BNC)   |
| Y/C output                    | Y/C video signal (4-pin)<br>Y: 0.7V(p-p), 75 ohms<br>C: 0.3V(p-p), 75 ohms   |
| Video S/N ratio               | 50 dB (AGC OFF)  |
| Minimum required illumination |  |
| in Colour mode                | 0.8 lux (Typical) (F1.2, AGC 20dB, 50% video)<br>0.4 lux (Typical) (F1.2, AGC 20dB, 25% video)<br>0.2 lux (Typical) (F1.2, AGC 20dB, 25% video, 2X sense-up)<br>0.0125 lux (Typical) (F1.2, AGC 20dB, 25% video, 32X sense-up)     |
| in B&W mode                   | 0.02 lux (Typical) (F1.2, AGC 20dB, 50% video)<br>0.01 lux (Typical) (F1.2, AGC 20dB, 25% video)<br>0.005 lux (Typical) (F1.2, AGC 20dB, 25% video, 2X sense-up)<br>0.0003 lux (Typical) (F1.2, AGC 20dB, 25% video, 32X sense-up) |
| Communication                 | RS-422A or RS-485 (switchable)<br>9600 bit/s   |
| Lens mount                    | C/CS mount   |
| Power requirement             | AC 24 V (50 Hz/60 Hz), DC 12 V   |
| Power consumption             | 550 mA   |
| Operating temperature range   | -10°C to +50°C<br>0°C to 40°C (recommended )   |
| Weight                        | 640g   |
| Accessories                   | 4p plug x1, Ferrite core x1, Instructions x2   |

## Dimensions



## Controls, Connectors and Indicators



- ① BACK FOCUS adjustment
- ② Lens mount (C or CS)
- ③ Camera mounting bracket
- ④ BACK FOCUS locking screw
- ⑤ [DC 12V, AC 24V] Power input terminals
- ⑥ [TX+ (A), TX- (B), RX+ (C), RX- (D)] Control signal connection terminals
- ⑦ [AUX, GND] Select (Motion detection output or B&W/Colour switching)
- ⑧ [SYNC IN] Sync signal input connector
- ⑨ [POWER] Power indicator lamp
- ⑩ [VIDEO OUT] Video signal output connector
- ⑪ [Y/C OUT] Y/C output connector
- ⑫ Cover
- ⑬ [IRIS] Iris selector switch
- ⑭ [VIDEO/DC] Iris selector switch
- ⑮ [MENU] Menu button
- ⑯ [SET/AWC] Set. auto white control button
- ⑰ Up-and-down, left-and-right button
- ⑱ [EXT.TERM-ON/OFF] Terminal ON/OFF switch of external synchronisation signal
- ⑲ [INT/GL, LL] Selector switch for synchronising system
- ⑳ [DUPLEX, SIMPLEX] Selector switch for transmission system
- ㉑ [RX, TERM-ON/OFF] RX signal terminal ON/OFF switch
- ㉒ NOT USED

## Other Equipment

### RM-P2580E Remote Control Unit

Build a cost-effective surveillance system by using the RM-P2580E to control other colour cameras as well, such as the TK-C1480E (Camera Menu Setting) and TK-C675BE / TK-C676E 360° dome colour cameras.

- Built-in PAN, TILT, and ZOOM controls
- Auto panning
- Built-in 8ch sequential switcher function

- Auto Patrol Mode
- Auto alarm operation
- Multi-alarm input/outputs
- 8 video input/outputs (Loop through)
- Operation lock function
- Interface: RS-485 for camera



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